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EXAMINER

GRAY, JILL M

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAMISHA CLARK and BARRY H. CHILTON

Appeal 2009-002778
Application 10/783,910
Technology Center 1700

Decided: October 13, 2009

Before CATHERINE Q. TIMM, KAREN M. HASTINGS, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1-8, 10-12, 14-16, 22-24, and 26 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Palermo (US 6,139,510, issued Oct. 31, 2000). We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

II. DISPOSITIVE ISSUE

The issue is: Have Appellants established that the Examiner reversibly erred in finding that Palermo inherently describes a fluoropolymer surface having oxygen-containing organic groups as required by the claims on appeal?

We answer this question in the affirmative.

III. FINDINGS OF FACT

All of the claims on appeal are directed to a medical device including a member having a fluoropolymer surface with oxygen-containing organic groups formed at locations where fluorine atoms have been removed (*see, e.g.,* claims 1, 8, 12, and 22). Claim 22 is representative:

22. A medical wire guide, comprising:

an elongate member having a fluoropolymer surface;

said fluoropolymer surface having been treated to remove fluorine atoms and form oxygen-containing organic groups to increase the hydrophilic character of the fluoropolymer surface; and

a lubricious and/or therapeutic coating adhered to the treated fluoropolymer surface.

According to the Specification, the elongate member is, for instance, a medical wire guide 10 (Spec. 6:15-17; Fig. 2). Upon this guide 10 is placed a coating of fluoropolymer such as polytetrafluoroethylene (PTFE) (Spec. 6:17-27). The fluoropolymer is to be further coated with a lubricious coating, and, to enhance the adhesion of the lubricious coating, the surface of the fluoropolymer is modified to remove fluorine atoms and form a carbonaceous surface (Spec. 7:12-30). Removal of fluorine atoms is

accomplished by contacting the fluoropolymer coating with strong chemical etchants such as metallic sodium (Spec. 8:2-11). The resulting carbonaceous film presents a surface-exposed carbonaceous backbone that typically includes relatively polar organic groups, including oxygen-containing organic groups (Spec. 8:11-15).

Palermo describes a process for pretreating a guidewire involving a step of cleaning the guidewire core with an oxygen plasma etch, followed by exposing the guidewire core to a hydrocarbon plasma of lower hydrocarbons and/or gaseous fluorocarbons to deposit a plasma-polymerized tie layer on the guidewire core (Palermo, col. 12, l. 60 to col. 13, l. 13). The plasma-polymerized tie layer is a layer of hydrocarbon residue and apparently provides C-C bonds for subsequent covalent bonding to a subsequently applied hydrophilic coating (Palermo, col. 13, ll. 13-27).

Regarding the limitation that the surface includes oxygen-containing organic groups formed at a position at which fluorine atoms have been removed, the Examiner finds that “the etched hydrocarbonaceous surfaces [of Palermo] are substantially similar to those contemplated by applicants.” (Ans. 4; *see also* Ans. 5, citing Palermo, col. 12, l. 60 to col. 13, l. 30.)

The Examiner also cites to the Examples disclosed in Palermo. Those Examples describe nitinol guidewires cleaned in an oxygen plasma, and exposed to a methane or ethane hydrocarbon plasma to deposit a hydrocarbonaceous residue onto the surface of the wire (Palermo, col. 14, ll. 8-58).

IV. PRINCIPLES OF LAW

When the Examiner relies upon a theory of inherency, “the [E]xaminer must provide a basis in fact and/or technical reasoning to

reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” (emphasis omitted). *Ex parte Levy*, 17 USPQ2d 1461, 1464 (BPAI 1990).

V. ANALYSIS

The Examiner has not provided any sound technical reasoning supporting the finding that the plasma-polymerization process of Palermo necessarily results in a fluoropolymer surface with fluorine atoms replaced with oxygen-containing organic groups as required by the claims. As pointed out by Appellants, Palermo polymerizes hydrocarbon and/or fluorocarbon monomers to form a hydrocarbonaceous residue on a guidewire (Br. 13-14; Reply Br. 2-3). This is not an etch process, but a process of forming a coating on the wire. Such a coating would be expected to be carbon-based (with fluorine present where the reactants contain fluorine groups). Palermo does not treat the surface of the hydrocarbonaceous residue with a chemical etchant as do Appellants. Therefore, it is unclear what evidence the Examiner is relying upon in finding that “the etched hydrocarbonaceous surfaces [of Palermo] are substantially similar to those contemplated by applicants.”

VI. CONCLUSION

Appellants have established that the Examiner reversibly erred in finding that Palermo inherently describes a fluoropolymer surface having oxygen-containing organic groups required by the claims on appeal.

VII. DECISION

The Examiner’s decision is reversed.

REVERSED

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